

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
UC089.1CPC1CP1APPLICATION NO.
09/865,291INFORMATION DISCLOSURE STATEMENT
BY APPLICANTAPPLICANT
Roger Y. Tsien et al.FILING DATE
May 24, 2001GROUP
1645**RECEIVED**

SEP 03 2002

(USE SEVERAL SHEETS IF NECESSARY)

U.S. PATENT DOCUMENTS

TECH CENTER 1600/2900

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
	1.	4,314,936	02/09/1982	Yaron <i>et al.</i>			
	2.	5,264,563	11/23/1993	Huse			
	3.	5,491,084	02/13/1996	Chalfie <i>et al.</i>			
	4.	5,599,906	02/04/1997	Dasmahapatra			
	5.	5,602,021	02/11/1997	Davis <i>et al.</i>			
	6.	5,605,809	02/25/1997	Komoriya <i>et al.</i>			
	7.	5,614,191	03/25/1997	Puri <i>et al.</i>			
	8.	5,625,048	04/29/1997	Tsien <i>et al.</i>			
	9.	5,912,137	06/15/1999	Tsien <i>et al.</i>			
	10.	5,981,200	11/09/1999	Tsien <i>et al.</i>			
	11.	5,998,204	12/07/1999	Tsien <i>et al.</i>			
	12.	6,197,928	03/06/2001	Tsien <i>et al.</i>			
	13.	6,248,550	06/19/2001	Tsien <i>et al.</i>			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	14.	AU 717873	04/06/2000	Australia				
✓	15.	EP 0 877 805 B1	05/06/2002	Europe				
✓	16.	EP 0 428 000 A1	05/22/1991	Europe				
✓	17.	WO 91/01305	02/07/1991	PCT				
✓	18.	WO 94/28166	12/08/1994	PCT				
✓	19.	WO 94/28173	12/08/1994	PCT				
✓	20.	WO 95/07463	03/16/1995	PCT				
✓	21.	WO 95/21191	08/10/1995	PCT				
✓	22.	WO 96/13607	05/09/1996	PCT				

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							YES	NO
✓	23.	WO 96/23810	08/08/1996	PCT ✓				
✓	24.	WO 96/23898	08/08/1996	PCT ✓				
✓	25.	WO 96/27027	09/06/1996	PCT ✓				
	26.	WO 96/27675	09/12/1996	PCT ✓				
✓	27.	WO 97/11094	03/27/1997	PCT ✓				
✓	28.	WO 97/28261	08/07/1997	PCT ✗				
✓	29.	WO 98/40477	09/17/1998	PCT ✓				

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
✓	30.	Baird <i>et al.</i> , "Circular Permutation and Receptor Insertion within Green Fluorescent Proteins" <i>Proc. Natl. Acad. Sci., USA</i> , 96:11241-11246, 1999
✓	31.	Blumenthal, in "Peptides and Protein Phosphorylation" (Kemp, ed; CRC Press 1990), pages 135-143
✓	32.	Chalfie <i>et al.</i> , "Green Fluorescent Protein as a Marker for Gene Expression," <i>Science</i> 263:802-805 (1994)
✓	33.	Cubitt <i>et al.</i> , "Understanding, Improving and Using Green Fluorescent Proteins," <i>Trends In Biochemical Sciences</i> 20:448-455 (1995)
✓	34.	Delagrave <i>et al.</i> , "Red-Shifted Excitation-Mutants of the Green Fluorescent Protein," <i>Nature Biotechnology</i> 13(2):151-154 (1995)
✓	35.	Ehrig <i>et al.</i> , "Green-Fluorescent Protein Mutants with Altered Fluorescence Excitation Spectra" <i>FEBS Letters</i> 367:163-166 (1995)
✓	36.	Geoghegan <i>et al.</i> , "Site-Directed Double Fluorescent Tagging of Human Renin and Collagenase (MMP-1) Substrate Peptides Using the Periodate Oxidation of N-Terminal Serine. An Apparently General Strategy for Provision of Energy-Transfer Substrates for Proteases" <i>Bioconjugate Chemistry</i> 4(6):537-544 (1993)
✓	37.	Giuliano <i>et al.</i> , "Fluorescent Protein Biosensors: Measurement of Molecular Dynamics in Living Cells," <i>Annual Review of Biophysics and Biomolecular Structure</i> , 24:405 (1995)
✓	38.	Heim and Tsien, "Engineering Green Fluorescent Protein for Improved Brightness, Longer Wavelengths and Fluorescence Resonance Energy Transfer," <i>Current Biology</i> 6(2):178-182 (1996)
✓	39.	Heim <i>et al.</i> , "Wavelength Mutations and Posttranslational Autoxidation of Green Fluorescent Protein" <i>Proceedings of the National Academy of Sciences of USA</i> , 91:12501-12502 (1994)
✓	40.	Heim <i>et al.</i> , "Improved Green Fluorescence" <i>Nature</i> 373:663-664 (1995)
✓	41.	Heim, "Green-Fluorescent Protein Forms for Energy Transfer" <i>Methods Enzymol.</i> , 302:408-423 (1999)

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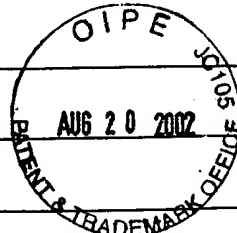
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|---|-----|---|
| ✓ | 42. | Inouye and Tsuji, "Aequorea Green Fluorescent Protein: Expression of the gene and fluorescence characteristics of the recombinant protein," <i>FEBS Letters</i> 341:2(03):277-280 (March 21, 1994) |
| ✓ | 43. | Kain et al., "Green Fluorescent Protein as Reporter of Gene Expression and Protein Localization," <i>Biotechniques</i> 19(4):650-655 (1995) |
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| ✓ | 46. | Krafft et al., "Synthetic Approaches to Continuous Assays of Retroviral Proteases," <i>Methods Enzymol.</i> , 241:70-86 (1994) |
| ✓ | 47. | Lee et al., "A Requirement of Hydrophobic and Basic Amino Acid Residues for Substrate Recognition by Ca ²⁺ /calmodulin-dependent protein kinase Ia," <i>Proc. Natl. Acad. Sci., USA</i> , 91:6413-6417 (1994) |
| ✓ | 48. | Matayoshi et al., "Novel Fluorogenic Substrates for Assaying Retroviral Proteases by Resonance Energy Transfer," <i>Science</i> , 1990, 247:954 |
| ✓ | 49. | Meredith et al., "Measurement of Kinase Activation in Single Mammalian Cells," <i>Nat. Biotechnol.</i> , 18(3):309-312 (2000) |
| ✓ | 50. | Mitra et al., "Fluorescence Resonance Energy Transfer between Blue-Emitting and Red-Shifted Excitation Derivatives of the Green Fluorescent Protein," <i>Gene</i> 173(1):13-17 (1996) |
| ✓ | 51. | Nagai et al., "A fluorescent indicator for visualizing cAMP-induced phosphorylation in vivo," <i>Nat. Biotechnol.</i> , 18(3):313-316 (2000) |
| ✓ | 52. | Pearson and Kemp, "Protein Kinase Phosphorylation Site Sequences and Consensus Specify Motifs: Tabulations" <i>Meth. Enzymol.</i> , 200:62-81 (1991) |
| ✓ | 53. | Persechini et al., "Novel Fluorescent Indicator/Proteins for Monitoring Free Intracellular Ca ²⁺ " <i>Cell Calcium</i> , 22:209-216 (1997). |
| ✓ | 54. | Roth, "Purification & Protease Susceptibility of the Green-Fluorescent Protein of Aequorea with a Note on Hlistaura" Thesis from the Graduate Program in Biochemistry from Rutgers, the State University of New Jersey (1985) |
| ✓ | 55. | Schlessinger, "Novel Fluorescent Approaches for Studying Cell Signaling in Single Cells," <i>Nat. Biotechnol.</i> , 18(3):262-263 (2000). |
| ✓ | 56. | Selvin, "Lanthanide-Based Resonance Energy Transfer" <i>IEEE J. Sel. Top. Quant. Electron</i> , 2:1077-1087 (1996) |
| ✓ | 57. | Songyang et al., "Use of an Oriented Peptide Library to Determine the Optimal Substrates of Protein Kinases," <i>Current Biology</i> , 4:973-982 (1994) |
| ✓ | 58. | Tsien et al., "FRET for Studying Intracellular Signalling," <i>Trends Cell Biol</i> , 3:242-245 (1993) |
| ✓ | 59. | Tsien, "The Green Fluorescent Protein" <i>Ann. Rev. Biochem</i> 67:509-544 (1998) |
| ✓ | 60. | Ward et al., "An Energy Transfer Protein in Coelenterate Bioluminescence" <i>Jour. Biol. Chem.</i> , 254(3):781-788 (1979) |
| ✓ | 61. | Wu and Brand, "Resonance Energy Transfer: Methods and Applications," <i>Analytical Biochemistry</i> 218:1-13 (1994) |
| ✓ | 62. | Yaron et al., "Intramolecularly Quenched Fluorogenic Substrates for Hydrolytic Enzymes," <i>Analytical Biochemistry</i> , 95:228-235 (1979) |

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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
<input checked="" type="checkbox"/>	63. Confidential (<i>i.e.</i> , non-public) communication re. Sato <i>et al.</i> manuscript draft entitled "Fluorescent indicators for imaging protein phosphorylation in single living cells," received by Applicants about, but not before, January 18, 2001. The manuscript was subsequently published in <i>Nature Biotechnology</i> , 20:287-294 (March 2002).

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